

Notice of Allowability

Application No.

09/758,775

Examiner

Prasad R Akkapeddi

Applicant(s)

GANDHI ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 04/14/2004.
2. ☒ The allowed claim(s) is/are 23-28,30,32,34 and 42-44.
3. ☒ The drawings filed on 25 February 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 04/13/2004 .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

Election/Restrictions

1. This application (amendment dated 02/25/2004) contains claims directed to the following patentably distinct species of the claimed invention:

A: claims 22-34 drawn to a light valve according to Fig. 14. The specifics of the valve being the liquid crystal cell is in an off state.

B: claims 36-41 drawn to a liquid crystal display system (no figure shown). The specifics of the display is that the liquid crystal cell is in an on state.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, none of the claims is generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record

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showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

2. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

3. During a telephone conversation with Mr. James C. Scott on 04/13/2004 a provisional election was made without traverse to prosecute the invention of species A, claims 22-34. Affirmation of this election must be made by applicant in replying to this Office action. Claims 36-41 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

EXAMINER'S AMENDMENT

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. James C. Scott on 04/20/2004.

The application has been amended as follows:

In the claims

- Cancel claims 8-21 and 35.

Allowable Subject Matter

4. Claims 23-28, 30, 32, 34 and 42-44 are allowed.
5. The following is an examiner's statement of reasons for allowance:

A search of prior art did not disclose a light valve in an off-axis configuration for use in high contrast reflective microdisplays comprising a combination of structural elements, more specifically:

(a) A linear polarizer positioned between a color filter and the liquid crystal cell to impart a polarization to the incident light, an analyzer positioned in the path of the light reflected by the liquid crystal cell and a retarder positioned between the liquid crystal cell and the analyzer in the path of the light reflected by the liquid crystal cell. The retarder having a retardation value ranging from 430 nanometers to 630 nanometers to reduce ellipticity of the reflected light and a retardation angle ranging from 87.6 to 90.2 degrees in a *red band* of light and the polarization axes of the light incident and light reflected are generally matched when the liquid crystal cell is in an off state.

(b) A linear polarizer positioned between a color filter and the liquid crystal cell to impart a polarization to the incident light, an analyzer positioned in the path of the light reflected by the liquid crystal cell and a retarder positioned between the liquid crystal cell and the analyzer in the path of the light reflected by the liquid crystal cell. The retarder having a retardation value ranging from 350 nanometers to 550 nanometers to reduce ellipticity of the reflected light and a retardation angle ranging from 87.5 to 90.5 degrees in a *green band* of light and

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the polarization axes of the light incident and light reflected are generally matched when the liquid crystal cell is in an off state.

(c) A linear polarizer positioned between a color filter and the liquid crystal cell to impart a polarization to the incident light, an analyzer positioned in the path of the light reflected by the liquid crystal cell and a retarder positioned between the liquid crystal cell and the analyzer in the path of the light reflected by the liquid crystal cell. The retarder having a retardation value ranging from 280 nanometers to 460 nanometers to reduce ellipticity of the reflected light and a retardation angle ranging from 87.7 to 90.3 degrees in a *blue band* of light and the polarization axes of the light incident and light reflected are generally matched when the liquid crystal cell is in an off state.

None of the prior art teaches the use of the specified retarders (with the retardation values and retardation angles indicated above) in the specified light bands that reduce ellipticity of reflected light by matching the polarization axes of incident and reflected light when the cell is in an off state (black state), thus creating a darker off state condition having an improved contrast.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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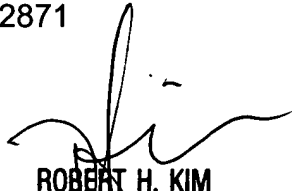
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prasad R Akkapeddi whose telephone number is 571-272-2285. The examiner can normally be reached on 7:00AM to 5:30PM M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H Kim can be reached on 571-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PRA

Prasad R Akkapeddi, Ph.D
Examiner
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